

AMENDMENTS TO THE CLAIMS

Please replace all previous versions of the claims with the following listing:

1. (Currently Amended) A process for production of energy in a pulp mill, according to which process a waste liquor of a cellulose pulp digestion liquor is concentrated, and this concentrated liquor is burned in a soda recovery boiler in the presence of biogenic fuels, thermal energy of flue gases obtained from the burning being recovered, wherein the biogenic fuel used is bark or other similar wood waste, which is dried to a moisture content below 30%, whereafter it is gasified to produce a fuel gas that is fed, at least in part, into the soda recovery boiler substantially continuously during the burning of the concentrated liquor in the soda recovery boiler.
2. (Previously Presented) The process according to Claim 1, wherein the bark or bark residue is dried to a moisture content below 20%, whereafter it is gasified, and at least 40% by volume of the gas thus produced is fed into the soda recovery boiler.
3. (Previously Presented) The process according to Claim 1, wherein ash is separated from the fuel gas before it is fed into the soda recovery boiler.
4. (Previously Presented) The process according to Claim 1, wherein the heat produced using at least a portion of the fuel gas is used for superheating soda recovery boiler steam in a superheating chamber separate from the flue gases of the soda recovery boiler.
5. (Previously Presented) The process according to Claim 1, wherein the wood waste is bark waste, bark-containing sludge, fiber sludge, branch or fiber reject from classification or surplus sludge from biologic wastewater treatment or logging waste, fire-wood separately harvested from a forest, surplus wood from wood processing, or other wood material suitable for burning.

6. (Previously Presented) The process according to Claim 1, wherein for the drying of the bark or corresponding wood waste there are used gases substantially having a temperature below 200°C.

7. (Previously Presented) The process according to Claim 6, wherein there is used steam or flue gas having a temperature below 180°C.

8. (Currently Amended) The process according to Claim 1, wherein as the energy for the drying of the bark or other similar wood waste there is used steam having a pressure of 0.1 to 100 bar, ~~preferably 2 to 14 bar.~~

9. (Currently Amended) A process for producing energy in a sulfate pulp mill, according to which process

- wood material used for pulp production is in part digested in cooking liquor to separate fibers from each other,
- the digested wood material is extracted as black liquor from the separated fibers,
- the black liquor is concentrated by evaporation, and
- the concentrated liquor is burned in a soda recovery boiler to regenerate cooking chemicals and to produce heat and electricity by using biogenic fuels, wherein
 - solid biogenic fuel is brought into a gaseous form,
 - formed ash is separated, [[and]]
 - a significant proportion of the gas is burned in the same boiler, equipped with heat recovery, as the concentrated liquor, and
 - the gas is burned substantially continuously during the burning of the concentrated liquor in the soda recovery boiler.

10. (Previously Presented) The process according to Claim 9, wherein the biogenic fuel to be gasified is wood and/or wood bark and/or bark-containing sludge and/or fiber sludge and/or branch or fiber reject from classification and/or surplus sludge from biologic wastewater treatment.

11. (Previously Presented) The process according to Claim 9, wherein the biogenic fuel to be gasified is logging waste collected from a forest and/or firewood separately harvested from the forest and/or surplus wood from wood processing and/or other wood material suitable for burning.
12. (Previously Presented) The process according to Claim 9, wherein the biogenic fuel to be gasified is peat.
13. (Currently Amended) The process according to Claim 9, wherein the solid fuel to be brought into a gaseous form is dried before the gasification to a moisture content of 5 to 40%, ~~preferably 10 to 15%.~~
14. (Previously Presented) The process according to Claim 9, wherein the solid fuel is dried using heat remaining in flue gas formed in the soda recovery boiler after the heat recovery, by bringing the flue gas into direct contact with the solid fuel to be dried.
15. (Currently Amended) The process according to Claim 9, wherein the solid fuel is dried using as energy steam at a pressure level of 0.1 to 100 bar ~~or, however, preferably at a pressure level that is the distribution pressure of the mill's bled steam or back-pressure steam network, preferably at a level of 2 to 14 bar.~~
16. (Previously Presented) The process according to Claim 9, wherein the solid fuel is dried using as energy the surplus heat that is present at the pulp mill.
17. (Previously Presented) The process according to Claim 9, wherein a combustion chamber is in the direction of the flow of flue gases divided into two parts, in the first of which there is burned the fuel that has been rendered gaseous, the heat produced therefrom being used to a significant degree for superheating of steam, and in the second part there is burned the concentrated liquor, the heat released therefrom being used primarily for the vaporization of boiler water.

18. (Previously Presented) The process according to Claim 9, wherein a portion of the solid biogenic fuel that has been brought into a gaseous form is, after the separation of ash, burned in a lime sludge reburning kiln and/or other units where its use replaces the use of fossil fuels.

19. (Currently Amended) An apparatus for producing, from wood bark, a biogenic fuel gas to be fed into a recovery boiler of a pulp mill, the apparatus being connected to a feed unit of the recovery boiler, wherein it comprises as a combination

- a bark-drying unit having feed means for the bark to be dried and outlet means for the bark, and
- a dried-bark gasifier for producing fuel gas from the bark, the apparatus having feed means for bark and outlet means for fuel gas, the feed means of the gasifier being connected to the outlet means of the drying unit and the gas outlet means being connected to the feed unit of the recovery boiler to feed into the boiler the fuel gas produced from the bark by gasification substantially continuously during operation of the boiler.

20. (Previously Presented) The apparatus according to Claim 19, wherein the drying unit comprises at least two separate dryers, which are arranged as a dryer cascade, the outlet means of the dryer subsequent in the series being connected to the feed means of the gasifier.

21. (Previously Presented) The apparatus according to Claim 20, wherein between the first and the second dryer there is arranged a pretreatment unit for treating the bark obtained from the first drier before it is fed into the second drier, the pretreatment unit having a feed unit connected to the outlet means of the first drier and an outlet unit connected to the feed means of the second dryer.

22. (Previously Presented) The apparatus according to Claim 21, wherein the pretreatment unit comprises a grinder.

23. (Previously Presented) The apparatus according to Claim 20, wherein flue gases and/or steam are used for the drying in at least in one of the dryers.

24. (Previously Presented) The apparatus according to Claim 20, wherein the first dryer comprises a bed dryer.

25. (Previously Presented) The apparatus according to Claim 20, wherein the second dryer comprises a fluid-bed dryer.

26. (Previously Presented) The apparatus according to Claim 19, wherein the gasifier is a fluid-bed boiler having an ebullating or rotary bed.

27. (Previously Presented) The apparatus according to Claim 19, wherein the outlet means of the gasifier is connected to a gas purification unit to separate impurities from the fuel gas before it is fed into the recovery boiler.

28. (New) The process according to Claim 8, wherein as the energy for the drying of the bark or other similar wood waste there is used steam having a pressure of 2 to 14 bar.

29. (New) The process according to Claim 13, wherein the solid fuel to be brought into a gaseous form is dried before the gasification to a moisture content of 10 to 15%.

30. (New) The process according to Claim 9, wherein the solid fuel is dried using as energy steam at a pressure level that is the distribution pressure of the mill's bled steam or back-pressure steam network.

31. (New) The process according to Claim 30, wherein the solid fuel is dried using as energy steam at a pressure level of 2 to 14 bar.